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Preliminary investigations on some *Pleurota* populations of East Turkey (*Lepidoptera, Oecophoridae*)

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Abstract: Preliminary investigations on some *Pleurota* populations of East Turkey (*Lepidoptera, Oecophoridae*). *Cesa News* 157: 1-4, 1 fig. 1 table.

In this paper, several populations of *Pleurota* species of East Turkey are evaluated and discussed here from molecular standpoint.

Keywords: *Pleurota, Oecophoridae, Lepidoptera, Turkey, mtCOI.*

Within the Cesa project, entitled "DNA Barcoding of the Lepidoptera of Cesa Collection (DBLCC)"², the first, limited attempt to some populations of the genus *Pleurota* Hbn. (*Oecophoridae*) in East Turkey has been made by the authors. Recently, the authors published various papers concerning this program (Kemal, Kızıldağ & Koçak, 2018a-d; Kemal, et al., 2018). It is obvious that external and genital morphology can not be enough to distinguish species in this genus. Even the printed resources on the genital morphology are extremely limited (Back, 1973; Huemer & Luquet, 1995; Kemal & Koçak, 2017a-c; Lvovsky, 1992, [1994], 2006, 2007). Similarly, the molecular data on the *Pleurota* species are very poor in the GenBank³. These limited conditions

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² <https://www.researchgate.net/project/DNA-Barcoding-of-the-Lepidoptera-of-Cesa-Collection-DBLCC>

³ <https://www.ncbi.nlm.nih.gov/home/about/policies/> "Databases of molecular data on the NCBI Web site include such examples as nucleotide sequences (GenBank), protein sequences, macromolecular structures, molecular variation, gene expression, and mapping data. They are designed to provide and encourage access within the scientific community to sources of current and comprehensive information. Therefore, NCBI itself places no restrictions on the use or distribution of the data contained therein. Nor do we accept data when the submitter has requested restrictions on reuse or redistribution. However, some submitters of the original data (or the country of origin of such data) may claim patent, copyright, or other intellectual property rights in all or a portion of the data (that has been submitted). NCBI is not in a position to assess the validity of such claims and since there is no transfer of rights from submitters to

forced us to study first on various problematic populations of the genus in Turkey. The first evaluations in the present and coming studies will be on the material preserved in the Cesa Collection⁴ (Table 1).

In the present paper, some collected specimens from the Provinces Malatya, Siirt, Bitlis and Diyarbakır were first evaluated morphologically. Perhaps, the specimen, identified as *Pleurota eximia* Lederer, is the easiest one. However, the genital morphology couldnot be sufficient in identification for other specimens. The molecular investigations have revealed that the rest of the specimens may belong to more than 3 different species (Fig.1), but their specific delimitations cannot currently be possible, as the present material under examination are insufficient in number for this purpose. It is also interesting that all the populations from Turkey under examination are gathered in a separate clade. This clade is currently in a sister position with *Pleurota aristella*. In the subclade, Pleuoo2 and Pleuoo4 appear as being two distinct species. The phylogenetic position of Turkish *Pleurota eximia* is defined herein for the first time. The specimens Pleu010-Pleu006 in the subclade may belong to at least two distinct species, even if their exact boundaries havenot yet been determined (Fig.1).

Taxonomical and molecular investigations on the *Pleurota* of Turkey will continue to increase in the coming years.

Finally, we have not received any response to the recent contradictory approaches concerning the usage of “publicly available” data of the Bold Systems (See previous paper: Kemal, Kızıldağ & Koçak, 2018d). This situation is here interpreted as our explains and approaches have been understood as being correct, and the existing problems wholly resolved.

Table 1 - Information for specimens mentioned in this study (see also Fig. 1)

Taxa	Collecting data	Dissections	Publication for genitalia	Process ID (Fasta)	Depository
<i>Pleurota</i> sp.	Bitlis Pr Adilcevaz Süphan Mt, Aygır 1960m, 10.vi.2015	GP2618♀	Kemal & Koçak, 2017b ⁵	Pleu010	Cesa
<i>Pleurota</i> sp.	Malatya Pr Beydağı NP 1200m, 25.iv.2015	GP2623♂		Pleu011	Cesa
<i>Pleurota</i> sp.	Diyarbakır Pr Hazro, Uzunargit 953m, 16.v.2015	GP2207♂		Pleu009	Cesa
<i>Pleurota</i> sp. ♂	Bitlis Pr Adilcevaz Süphan Mt, Aygır 1960m, 10.vi.2015			Pleu001	Cesa
<i>Pleurota</i> sp.	Diyarbakır Pr Hazro, Dadaş 990m, 16.v.2015	GP2206♂		Pleu008	Cesa
<i>Pleurota</i> sp.	Diyarbakır Pr Hazro, Dadaş 990m, 16.v.2015	GP2205♂		Pleu007	Cesa
<i>Pleurota</i> sp.	Siirt Pr Şirvan, Bacavan 1560m, 29.v.2013	GP2145♂		Pleu006	Cesa
<i>Pleurota eximia</i>	Siirt Pr Şirvan, Akgeçit 1210m, 3.vii.2013	GP2095♂		Pleu005	Cesa
<i>Pleurota</i> sp. ♀	Bitlis Pr Adilcevaz Süphan Mt, Aygır 1960m, 10.vi.2015			Pleu002	Cesa
<i>Pleurota</i> sp.	Siirt Pr Şirvan, Maden kvş. 960m, 29.vi.2013	GP2077♂		Pleu004	Cesa

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⁴ <http://grbio.org/cool/eaaz-xyfc> <http://grbio.org/cool/d36c-mrx>

⁵ This genitalia and identification were made by the authors, before obtaining molecular data. Identification as *pyropella* needs now confirmation.

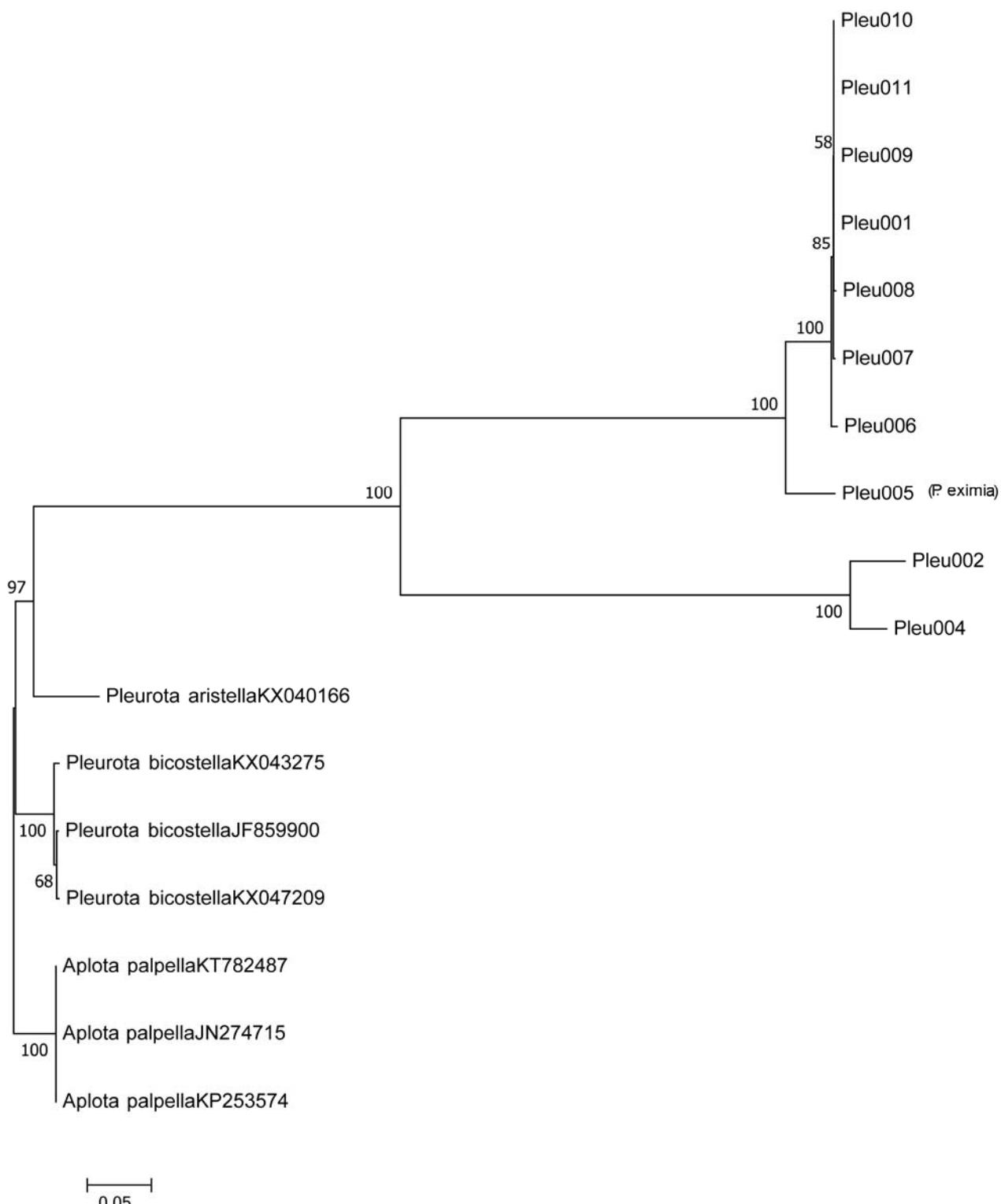


Fig. 1. Phylogenetic tree of *Pleurota* populations from Turkey based on COI .

The evolutionary history was inferred using the Neighbor-Joining method (Saitou & Nei, 1987). Populations of *Aplota palpella* was used as the out-group. The evolutionary distances were computed using the p-distance method (Nei & Kumar, 2000). The analysis involved 17 nucleotide sequences. There were a total of 658 positions in the final dataset. Evolutionary analyses were conducted in MEGA7 (Kumar, Stecher & Tamura, 2016). Numbers indicate reliabilities (%) based on 1,000 bootstrap replicates.

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